Capital Market Instruments

Proposed Methodology for Facilitated Emissions 2022

PCAF
Partnership for
Carbon Accounting
Financials

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Table of contents

1 Introduction

In September 2019, the Partnership for Carbon Accounting Financials (PCAF) was launched globally to harmonize global greenhouse gas (GHG) accounting methods and enable financial institutions to consistently measure and disclose the GHG emissions financed by their loans and investments. Responding to global industry demand for a standardized GHG accounting approach, PCAF developed the Global GHG Accounting & Reporting Standard for the Financial Industry (the Standard), reviewed by the GHG Protocol and conforming to requirements set forth in the Corporate Value Chain (Scope 3) Accounting and Reporting Standard for category 15 investment activities. This initial standard was released on 18 November 2020 following public consultation and covers six asset classes: Listed Equity and Corporate Bonds, Business Loans and Unlisted Equity, Project Finance, Commercial Real Estate, Mortgages, and Motor Vehicle Loans.

The current PCAF Standard is a tool for the financial industry to measure and report financed emissions, a metric that provides the starting point to assess and disclose climate-related risks, set science-based targets, and inform climate strategies and actions that direct capital in support of the alignment of financial flows with the Paris Agreement's goals. Although PCAF's methodology for financed emissions accounting continues to grow to cover additional asset classes, there is increasing global pressure for additional GHG accounting guidance to cover those activities that may be classified as facilitated emissions.

Facilitated emissions differ from financed emissions in two respects: they are off-balance sheet (representing services rather than financing) and they can take the form of a flow activity (temporary association with transactions) rather than a stock activity (held on book). PCAF views facilitation as a separate and significant metric, and one that exerts material impact on the direction of capital towards economic activities that will enable the transition to net zero no later than 2050.

Members of PCAF have questioned how activities that result in facilitated emissions can and should be accounted for, particularly those associated with services provided by financial institutions to support the issuance of capital markets instruments. The PCAF Working Group on Capital Markets Activities ("Working Group") was formed in early 2021 to formulate an industry-wide proposal in response to this question. The Working Group first published a discussion paper in November 2021, which looked at key design choices in developing a methodology for the accounting of facilitated emissions associated with the arranging of capital markets issuances (when the facilitation activity should be captured; how the responsibility should be split between the facilitators; and allocating emissions), as well as proposed options. Now, this paper aims to propose more specific guidance.

Since the publication of the 2021 discussion paper, the Working Group has gathered feedback from both the public consultation held at the end of 2021 and from additional targeted discussions the Working Group held with third-party experts. With the feedback gathered, there was a clear lead option for most of the challenges and open questions outlined in the 2021 discussion paper. As a result, PCAF is now proposing specific guidance on these elements of the methodology of how to account for and report on facilitated emissions. However, there remains one open question that the Working Group requests specific feedback on through the current consultation: what portion of the capital markets issuance is the responsibility of the facilitator?

This proposed methodology does not cover how targets should be set for facilitated emissions (i.e. whether facilitated emissions targets should be separate to, or combined with, financed emissions targets). We expect this work to be covered by other bodies concerned with target setting – PCAF is focused exclusively on GHG accounting and disclosure.

The Working Group includes the following banks, that developed this proposed methodology:

- Barclays (co-chair)
- Morgan Stanley (co-chair)
- Bank of America
- BNP Paribas
- Citi
- HSBC
- NatWest
- Standard Chartered

The PCAF Secretariat supported the work by moderating their technical discussions, reviewing the content, and coordinating and editing this document. The PCAF Secretariat is operated by Guidehouse, a global consultancy firm that specializes in energy, sustainability, risk, and compliance for the financial industry.

1.1 About this Proposed Methodology

This paper outlines PCAF's view on financial institutions' roles related to capital markets instruments and provides a proposed methodology for calculating and reporting facilitated emissions, which is a product of the collaboration of the PCAF Working Group on Capital Markets activities over the past two years. Once this proposed methodology has been finalized, and after review by the GHG Protocol, this paper will be included as a separate method within the current PCAF standard – the Global GHG Accounting & Reporting Standard for the Financial Industry.

We explain the difference between capital markets instruments (i.e. facilitated transactions) and loans and investments (i.e. financed emissions) and propose framing the GHG emissions assigned to capital markets activities as facilitated emissions rather than financed emissions. We then outline the key points of design which were developed to form the proposed methodology for calculating and reporting on facilitated emissions and describe the decisions made in developing this guidance. To conclude, we present the accounting methodology and guidelines for reporting and disclosure of facilitated emissions.

Box 1. Definitions

The authors of this proposed methodology used certain terms that may differ in use for other financial institutions or financial sector/market participants. The following definitions clarify how we used these terms and what we mean by them:

Arranger: This term refers generally to the facilitator roles mentioned below. This may be contrary to market terminology but is the way we chose to describe this activity in this paper.

Asset Manager: Manages capital and invests it into financial instruments on behalf of clients. In this role, the manager is not the owner of the assets.

Facilitator: An institution (usually large international banks) that helps an entity (in this paper, generally corporates[1]) to issue equity or debt instruments in the capital markets. The facilitator may carry out activities including advising the issuing entity on structure, pricing, and process; preparing materials for and engaging with investors; and arranging and guiding issuing entities on a roadshow. Formal roles encompassed by this term include Lead/Active/Passive Bookrunner(s) and Lead/Co-Manager(s).

Investor: A private person or an institutional investor (e.g. pension fund) who invests capital into a financial instrument. They either manage investments alone or delegate this task to an asset manager via a mandate or by investing into an investment fund.

Issuer: The entity (in this paper, generally corporates1) that issues a debt or equity capital markets instrument.

1 This methodology is intended to be applied in relation to transactions facilitated for non-financial corporate issuers

1.2 Key Takeaways

- This proposed methodology highlights why capital markets activities are essential to the climate transition. It also introduces the concept of facilitated emissions and the challenges that arise in developing an emissions accounting methodology for this activity.
- Capital markets involve an added level of complexity due to the off-balance sheet dimension of facilitation.
- Capital markets have multiple players, including issuers, investors, and facilitators. Although GHG accounting methodologies are already in place for issuers and investors (i.e. financed emissions), no harmonized accounting standard yet exists for capital markets facilitators.
- Designing a methodology for capital markets facilitated emissions entails numerous technical choices, including the timeframe of capture, determining what portion of issuance is the responsibility of a facilitator (i.e. weighting), splitting responsibility across multiple facilitators (i.e. apportionment), and designing appropriate treatments for equity versus debt capital markets.
- Over the course of the last two years since the Working Group was formed, the group has arrived at a clear consensus for some design choices within the methodology, which are outlined in this paper. However, there remains one aspect of the methodology where a clear solution did not emerge.
- We are now putting this aspect of the methodology – percentage weighting of GHG emissions to facilitators – back to public consultation with proposed options arrived at by the Working Group.

2 Why Capital Markets Are Important to the Climate Transition

Within the financial sector, capital markets (where companies and governments raise debt and equity) play a crucial role in fuelling economic activity and providing needed funding. In 2021 alone, global long-term bond issuance was $26.8 trillion and global equity issuance was $1.0 trillion, meaning that total capital markets issuance was $27.8 trillion.[2]

Capital markets sit at the nexus of financial flows that must be directed increasingly towards more sustainable practices if we are to avoid the worst effects of climate change. This is especially true since capital markets issuances in one year will have a climate impact in many years that follow. Actors within these markets have an opportunity to help those financial flows move into the right activities. These actors include the following:

- Those who raise funding in capital markets (the issuers), such as governments and private sector companies;
- The investors in capital market instruments who are the providers of this often-long-term funding; and
- Those who facilitate and enable these complex multi-party transactions, i.e. facilitators.

For two of these three actors, there are already GHG accounting methodologies in place. For issuers, the GHG Protocol Corporate Accounting and Reporting Standard can be applied (also applicable for non-corporate organizations). For investors, the PCAF Global GHG Accounting & Reporting Standard for financed emissions have been available since November 2020. However, no harmonized accounting standard is yet in place for actors facilitating capital market transactions.

Facilitators are mostly large international banks that conduct substantial capital markets facilitation activities including advising issuers on structure, pricing, and process; preparing materials for and engaging with investors; and arranging and guiding clients on roadshows. These facilitation services are critical to the functioning of capital markets. Through this facilitation role, banks are in a unique position to help their clients meet the growing sustainability demands and climate considerations of investors. To help limit climate change and achieve net zero emission targets by 2050, capital markets need to redistribute a large amount of capital to green and sustainable companies, projects, products, and services.

Financial institutions can take up several roles as facilitators. These roles vary by product and market, and are summarised as follows:

1. Lead Bookrunner: This includes both active and passive book-runners. Lead bookrunners typically lead on the largest percentage of a deal's economics. Active bookrunners are responsible for most deal support (i.e. investor book, allocations, roadshow) and they

2 Securities Industry and Financial Markets Association, Capital Markets Fact Book, 2022.

are compensated with the highest fees. Passive bookrunners do not have access to the investor order book.

2. Co-Manager/Lead Manager: These institutions are invited into a deal by the active bookrunners but the activities they undertake are less significant. Economics for lead/co-managers are typically smaller in relationship to the bookrunners.

Financial institutions can also be involved in providing backstop credit facilities, which can be drawn to meet a shortfall in funds raised from investors in the market if appetite falls short of expectations. This proposed methodology does not cover the role of underwriting financial institution(s) that provide a credit facility as this activity would lead to financed emissions, which differs in nature from the activity described here.

This paper focuses on the facilitation activity of the bookrunners and managers in a capital markets issuance. Although these financial institutions do not provide the capital directly, they play a key role in an issuer's capacity to expand or transition. Crucially, this activity can include a material part of business activities. Therefore, the influence of financial institutions on capital markets and the associated financial flows can be substantial. If capital markets are to channel more financing into climate-friendly projects and businesses, all actors in these markets need to be as transparent as possible to the market and wider stakeholders about their role in these activities and the impact of these activities on climate change.

As the intermediary between organizations seeking debt or equity capital and investors looking for more investment opportunities, financial institutions need to develop a mechanism to provide transparency about the GHG emissions associated with capital distributed via capital markets activities. Several key stakeholders including the Financial Stability Board's Task Force on Climate-related Financial Disclosures and the UN-convened Net-Zero Banking Alliance have asked for more transparency around capital markets activities.

This proposed methodology provides a suggested GHG accounting methodology for the facilitation of capital markets activities. This method creates a mechanism that helps provide transparency and accountability and will enable the following:

- The ability to consistently define the quantum of GHG emissions associated with financial institutions' facilitation of capital markets activities;
- Clearer comparison of issuers' GHG emissions profile, allowing for more informed decisions; and
- More informed analysis and comparison of the financial institutions engaged in facilitation activity by their investors and other stakeholders.

3 How Facilitated Financing Is Different from Direct Financing

Facilitated emissions differ from financed emissions in two key respects, as the following sub-chapters describe.

3.1 Off-Balance Sheet versus On-Balance Sheet

The current PCAF Standard on financed emissions[3] is based upon on-balance sheet exposure (i.e. financed emissions), which allows financial institutions to account for their share of a corporate client's emissions based on the client's enterprise value (or equivalent in the case of non-corporate actors). This attribution element reduces the propensity for double counting across debt and equity holdings of financial institutions.

By contrast, capital markets transactions are rarely held on a financial institution's balance sheet. They are facilitated, using various services the facilitating institution provides, rather than financed, because the institution is not providing financing directly to the issuer.

As a result, there is a distinction in the concept of emissions ownership. If financial institutions were to account for and report the emissions associated with debt or equity capital they facilitate, one could argue that they may be double counting emissions that are reported by other financial institutions and/or investors holding these instruments. Financial institutions also often have significant lending relationships with the same clients for whom they facilitate capital markets transactions, and so there is a potential for overlap when financial institutions are also accounting for their financed emissions for those clients.

Double counting is common when it comes to scope 3 GHG accounting, and it should not necessarily mean that institutions should avoid accounting for or reporting facilitated financing activities. Double counting does, however, potentially act as a reason to report this facilitation activity separately to make it clearer which emissions are directly financed by a financial institution, and which are facilitated (and therefore financed by other parties).

3.2 Flow versus Stock

Capital market facilitation leads to a temporary association with transactions. Transactions can be accomplished within weeks or even days and then completed and often there is no financial (credit) risk taken. This is classified as flow activity. By contrast, a loan can be held for years on a balance sheet and exposes the facilitator to credit risk – this is classified as a stock activity and is accounted for differently.

3 The Global GHG Accounting & Reporting Standard for the Financial Industry

Although both facilitation and lending are commercial activities, which will both earn fees, they are fundamentally different in nature and the facilitator's role differs in both. It is not conceptually consistent or easy to add the two activities together.

Emissions related to capital market activities must be measured, but measurement and disclosure should not deter the facilitation of finance to carbon-intensive industries for which funds are needed to facilitate a net zero transition. For example, a power company trying to invest in renewables.

4 Proposed Separate Method: Facilitated Emissions

4.1 Introduction

As earlier chapters discussed, given the critical role of facilitators in the issuance of capital markets instruments, there are strong reasons to consider accounting for the capital markets activities that financial institutions can facilitate for issuers through their roles as bookrunners and managers in these transactions and, in doing so, capture the emissions that can be associated with this activity.

This chapter outlines key design choices that have been considered when measuring facilitated emissions that financial institutions with capital markets activities should account for. The Working Group focused on possible choices to fairly attribute emissions to the facilitator and consider practical implications for and against each choice.

4.2 Time Period Over which the Facilitation Activity is Captured

This part of the methodology has been finalized.

Unlike lending, capital markets transactions generally do not remain on a financial institution's balance sheet for the life of the instrument, and the facilitator will not be required to extend or put at risk its capital for the instrument to be successfully issued—the exception being if the facilitator has underwritten any part of the issuance. Where a financial institution provides an underwriting facility, this should be treated separately from the role they provide in arranging and facilitating an issuance and would lead to financed emissions.

As facilitators of capital markets instruments, financial institutions are only involved when the transaction is being arranged and launched and will take no (or limited) capital risk. Given the temporary association with transactions, capital market facilitations will be treated as 'flow' activities (as opposed to stock activities such as lending). One of the questions posed during the public consultation in 2021 was determining the time period over which the facilitation activity should be captured. From the public consultation, the Working Group received a clear response supporting treatment of capital markets facilitation as a 'flow' activity because it is the most straightforward and easy to understand.

Using this approach, the commitment to the capital markets transaction is accounted for only in the year the facilitation occurs, using the reported or estimated emissions of the issuer in that year only. All the transactions during the year are then aggregated over that one year to generate total facilitated emissions. We acknowledge that there may be a time lag in data availability given that emissions data will typically be available 8 to 10 months after the calendar year-end. Best practice would be for the emissions data of a given year to correspond with the capital markets activity of the same year to achieve consistent, accurate calculations; however, where this is not possible, it is acceptable that the data represent different years, per PCAF data guidance (see section 4.7). The assumption is that— in line with the existing PCAF Standard — investors of financed emissions will report the instrument separately and for each year that they are invested in the instrument (i.e. there will always be an investor reporting the emissions associated with the issuance until its maturity). For a long-dated instrument, this means investors take responsibility for most of the emissions from inception to maturity; while for a shorter instrument, investors take less responsibility for an overall portion of financed emissions.

Taking this flow approach is more reflective of the facilitator's short-term involvement in a capital markets transaction and more closely aligns with when a facilitator generates revenue, compared to taking a stock approach; for example, a one-off fee will be reported in that year's profit and loss (P&L) rather than a continuously paid coupon/interest reported in future year's P&L.

A possible limitation to this approach is that recognition/reporting of (typically) large issuances only occurs in the year the transaction is facilitated, which can mean large swings in reporting given that companies tend to go to the market every few years. However, this can be balanced by separate reporting of facilitated emissions from financed emissions – something that there was a strong consensus on in the response to the 2021 public consultation.

4.3 What Portion of the Capital Markets Issuance Is the Responsibility of the Facilitator?

This part of the methodology has not yet been finalized and is open for public consultation until 21th October 2022.

Determining a facilitator's responsibility for facilitated emissions versus an investor's responsibility remains an open question. On the one hand, it is the investors who provide the capital, but on the other, the facilitators are key to unlocking the capital by arranging the transaction as facilitators over time have evolved to specialize their services as critical intermediaries.

Since the publication of the PCAF Capital Market Instruments Discussion Paper 2021, the Working Group has reviewed the feedback from the consultation and held its discussions. Working Group members were tasked with devising and suggesting methods that they felt would work well to reflect the value of a facilitator's role in capital markets transactions. Several methods were proposed as to how best to calculate the portion of the capital markets issuance that should be reported by the facilitator (compared to the investors) – some of which were discussed in the 2021 discussion paper, but many of which are new approaches. One such new approach is the 'Global Systemically Important Banks (G-SIB) approach' (described in more detail below). Through a process of debate and discussion, the Working Group narrowed the options down to two potential weighting approaches to account for a facilitator's facilitated emissions: the 100% weighting approach and the G-SIB approach.

These proposed methods received the most support from Working Group members. In this consultation, we seek feedback on these two approaches – which one is preferred, why or why not?

OPTION A: 100% WEIGHTING

In this option, the PCAF proposed methodology would require that emissions be attributed to facilitators at 100% weighting.

This approach was first put forward in the 2021 discussion paper. Additionally, there was support for the 100% weighting method from subsequent targeted consultations that were held with climate and industry experts. There is a viewpoint that applying a partial weighting of a transaction to facilitators is most necessary where both facilitated and financed emissions are expected to be combined for reporting or in singular emission reduction targets to avoid one activity dwarfing the other. However, when the activities are clearly separated between facilitated and financed, this is less of a concern.

The pros of this approach are that it provides a simple, single ratio for weighting; works for both bonds and equity; is transparent and auditable; would be consistent across facilitators globally; some facilitators are already using this weighting; and it avoids potential criticism that facilitators are not taking full responsibility for their activity.

The cons of this approach are that it does not allow for a differentiation between the relative value of two different types of activities: financed versus facilitated activities. Another concern is that reporting a much larger facilitated emissions figure (because of attributing 100% of a transaction to facilitators) could exacerbate volatility in reporting as the capital markets are substantially influenced by market sentiment over economic and other factors. Additionally, some stakeholders question the significant double counting inherent in the approach – both facilitators and long-term investors would report 100% of a transaction's attributed emissions. However, double counting, as a concept, was discussed in the 2021 discussion paper and it was noted that it is a common occurrence in GHG accounting. Double counting would also be unlikely to materially alter the underlying change in activities that need to occur from financial institutions and issuers to achieve decarbonization, which is typically based on a rate of reduction across all activities.

OPTION B: G-SIB APPROACH

In this option, the PCAF proposed methodology would require that emissions be attributed to facilitators using a ratio derived from the Global Systemically Important Banks (G-SIB) classification of the relative importance of arranging activity in the overall financial system. The Basel Committee's methodology[4] for assessing and identifying G-SIBs apportions a weighting to the relative importance of each activity in terms of its impact on the overall market: underwriting accounts for 3.33% of the G-SIB score, whereas the Basel II leverage ratio (lending) accounts for 20%. Thus, direct provision of capital is deemed by the Basel Committee methodology to be six times more important than arranging transactions as an underwriter[5].

4 Basel Committee on Banking Supervision – Instructions for the end-2021 G-SIB assessment exercise

5 Per chapter 4.4.3 of the Basel Committee on Banking Supervision – Instructions for the end-2021 G-SIB assessment exercise, underwritten transactions in debt and equity markets includes all underwriting (public and private) over the reporting year where the bank was obligated to purchase unsold securities. When the underwriting is on a best-efforts basis (i.e. the bank is not obligated to purchase the remaining inventory), only include the securities that were actually sold.

G-SIB approach is calculated as follows:

$$= \frac{\textit{Value of underwritten transactions in debt and equity markets}}{\textit{Total exposure for use in the Basel III leverage ratio}} = \frac{3.33\%}{20.00\%} \approx 17\%$$

The Basel Committee on Banking Supervision reviews the G-SIB framework every three years although, historically, changes to the G-SIB weightings have only been made every 8 to 10 years. PCAF would propose that, to avoid disorderly changes in methodology, any changes to the G-SIB weighting would not automatically be reflected in the PCAF Capital Markets methodology and would require formal adoption by PCAF in a reasonable timeframe.

The pros of this approach are that it provides a single ratio for weighting; demonstrates a view of the relative value of facilitators versus lenders in the market; works for both bonds and equity; is transparent and auditable; would be consistent across facilitators globally; and derives its weighting authority from the primary global standard-setter for financial institutions.

The cons of this approach are that some stakeholders may criticize any weighting less than 100%; G-SIB weightings change periodically (making the method more complex), and significant changes to the weighting could complicate consistent and comparable facilitated emissions figures over the long-term – for example, the weighting changed in 2018 from its previous 33.3% to the current ≈17%.

4.4 Splitting the Responsibility between Facilitators

This part of the methodology has been finalized.

Once it is decided how facilitators should report the issuance(s) they facilitate i.e. how the facilitators should take responsibility versus investors (see 'What Portion of the Capital Markets Issuance Is the Responsibility of the Facilitator?' section above), there would follow a question of how the facilitators in a transaction[6] (typically there is more than one) should split their responsibilities. A few choices were discussed by the Working Group, but a consensus quickly emerged that the guidance in this proposed methodology should split the responsibility based on league table credit (a number readily available sources from third-party providers, such as Bloomberg or Dealogic), on the basis that it was the most practical suggestion. These league table credit numbers will determine what proportion of the 'facilitated' part of the transaction each facilitator takes responsibility for. Co-managers are not accounted for in league table credit and will therefore not be captured in this proposed methodology. No issues were raised by the Working Group given the fees gained by co-managers in capital markets transactions are immaterial compared to those of the lead bookunners (typically only 5-10% of fees are allocated to co-managers).

6 Generally, facilitated transactions involve more than one facilitator

4.5 Differences between Equity and Debt Capital Markets

This part of the methodology has been finalized.

A capital markets methodology inclusive of both equity and debt capital markets standardizes across two market activities. Ideally, the assumptions behind the capital markets facilitated emissions methodology should either account for the nuance in both types of transactions or consider separate methodologies.

Of the proposed methodologies, 100% weighting and the G-SIB approach, neither differentiate between debt and equity capital markets in terms of the percentage weighting applied with each method – for 100% weighting, both equity and debt capital markets transactions attract a 100% weighting rate, while the G-SIB approach attracts a ≈17% weighting rate to both debt and equity capital markets transactions. This offers the benefit of methodological simplicity across the most common facilitated emissions transactions. However, equal treatment of both equity and debt capital market activities does mean that the permanence of equity versus the recycling of debt is not accounted for.

These are numerous considerations when evaluating equity and debt capital markets facilitation in the same methodology; including whether league table credit accurately reflects the scale of involvement of various parties in all types of capital markets issuances, and whether all the capital raised in the issuance goes to the company issuing the capital (which is specific consideration for equity capital markets transactions). More research is required to assess whether grouping these two distinct capital markets products is an accurate representation of emissions attribution.

4.6 Allocating Emissions – Calculating Attribution Factors

This part of the methodology has been finalized.

Emissions need to be allocated to the proportion of the issuance being calculated. We recommend adopting the approach that PCAF takes to attribute emissions for other applicable asset classes in the PCAF Standard. For example, for corporate issuers, the appropriate approach might be found in the Listed Equity and Corporate Bonds approach within the PCAF Global GHG Accounting & Reporting Standard for the Financial Industry.

Figure 1 illustrates the recommended approach for calculating the attribution factors for Listed Equity and Corporate Bonds. In place of the numerator (outstanding amount) shown in the formula on page 50 of PCAF's Global GHG Accounting & Reporting Standard for the Financial Industry, we suggest using the proportion of the capital markets issuance calculated according to the flow method indicated in section 4.2, as well as the preferred weighting (100% weighting or G-SIB approach) outlined in section 4.3 and splitting approach indicated in section 4.4. The Enterprise Value including Cash (EVIC) that is used as the denominator in the diagram should be post-transaction to account for any changes in EVIC due to the capital markets issuance.

The facilitated emissions are calculated by multiplying the ratio of the facilitated amount (numerator) and EVIC (denominator) by the annual emissions of the company and then summing these emissions up. The facilitated amount is determined by multiplying the league table credit as the proportion of the 'facilitated' part of the transaction, amount of capital raised, and the weighting factor (100% weighting or G-SIB). The facilitated amout can also be thought of as the total raised amount multiplied by an attribution factor, where the attribution factor is the product of the league table credit and the weighting factor (100% weighting or G-SIB)".

Figure 1: Recommended approach for calculating facilitated emissions using league table credit

$$\textit{Facilitated emissions} = \sum_{c} \frac{\textit{Facilitated amount}_c}{\textit{EVICc}} \times \textit{Annual emissions}_c$$

$$(\textit{Facilitated amount} = \textit{league table credit} \times \textit{total raised amount} \times \textit{weighting factor})$$

$$(\textit{Attribution factor} = \textit{league table credit} \times \textit{weighting factor})$$

EXAMPLES OF FACILITATED EMISSIONS CALCULATIONS

Two facilitators support a listed Company X with raising capital on the debt market. In total $200 million was raised, bringing the Company's Enterprise Value Including Cash (EVIC) to $2 billion. Company X has reported on its emission over the past year of 1,000 kt CO_2eq.

Using the 100% weighting factor, the total facilitated emissions for each facilitator is as follows:

Financial institution	League Table Credit	Facilitated amount (millions of $)	Attribution factor	Facilitated Emissions (kt CO_2 eq)
Facilitator 1	60%	120	0.06	60
Facilitator 2	40%	80	0.04	40

Full calculations for facilitator 1, as an example

$$\textit{Facilitated emissions} = \frac{\$120{,}000{,}000}{\$2{,}000{,}000{,}000} \times 1000 \text{ kt } CO_2\text{eq} = \mathbf{60 \text{ kt } CO_2\text{eq}}$$

Next, using the ≈17% G-SIB weighting factor, for the example above, the total facilitated emissions for each facilitator is as follows:

Financial institution	League Table Credit	Facilitated amount (millions of $)	Attribution factor	Facilitated Emissions (kt CO_2 eq)
Facilitator 1	60%	20.4	0.0102	10.2
Facilitator 2	40%	13.6	0.0068	6.8

Calculations for facilitator 1, as an example:

$$\textit{Facilitated amount} = 60\%\ \textit{league table credit} \times \$200\text{m}\ \textit{capital raised} \times 17\%\ \textit{weighting factor} = \$20.4\text{m}$$

$$\textit{Facilitated emissions} = \frac{\$20{,}400{,}000}{\$2{,}000{,}000{,}000} \times 1000\ \text{kt}\ CO_2\text{eq} = \mathbf{10.2\ kt\ CO_2eq}$$

In an equity issuance for a private company that is listing in the public markets for the first time, by the time a financial institution comes to report the facilitated emissions associated with that transaction we expect the EVIC of the newly listed company to be known and should be the denominator in the above calculation.

DATA REQUIRED

Please see details in Appendix.

4.7 Reporting Facilitated Emissions

This part of the methodology has been finalized.

The Working Group agreed that facilitated emissions shall be reported separately from financed emissions.

During the discussions conducted by the Working Group, a concern was raised about the lack of a forward-looking element to the methodology. The guidance in this proposed methodology only considers emissions for the year of issuance for capital markets activities, and it is difficult to capture any improvement that issuing companies may make to their GHG emissions. There was a view that this would allow for less incentive to firms to facilitate capital markets activities for companies who have future transition plans and/or targets[7].

To address this concern, the Working Group discussed several options that might be used to capture a forward-looking incentive for firms, including whether reporting of emissions should be categorized based on targets at the client level. It was ultimately decided that, due to the lack of industry guidance from target setting initiatives, PCAF should not prescribe any specific disclosure requirements at this time. Therefore, for now, the proposed methodology will not include any specific guidance on the reporting and disclosure of facilitated emissions. Facilitators will be able to provide their narrative and rationale about how they choose to report facilitated emissions. We expect that, even though this proposed methodology does not currently prescribe specific reporting and disclosure requirements, it will be in the interest of the facilitators to report transparently across the types of transactions they are facilitating and the underlying issuers.

PCAF does not recommend a preferred data vendor when collecting GHG emissions data[8]. Financial institutions should use the most recent, high-quality data available for calculations. Although high-quality data can be difficult to obtain, data limitations should not deter financial

7 Where a financial institution provides an underwriting facility, this should be treated separately from the role they provide in arranging and facilitating an issuance and would lead to financed emissions.

8 Global GHG Accounting & Reporting Standard for the Financial Industry

institutions from calculating and reporting facilitated emissions. In these instances, data quality scores can help institutions to develop a strategy to improve data over time.

Future revisions of the methodology may adjust the guidance requirements once definitions of verified targets and/or transition plans are established, at which point it may need to be considered whether amounts of facilitated emissions should be further segregated into buckets based on issuers' targets and/or transition plans. Under this proposed methodology, the approach for reporting aligns with accounting fundamentals and allows financial institutions the option to segregate the facilitated emissions as they deem appropriate.

DATA AND DATA QUALITY

- Financial institutions **shall** use the most recent or otherwise appropriate data available to them. PCAF recognizes there is often a lag between financial reporting and required emissions data, such as emission factors or emissions data from borrowers or investees. In these instances, it is acceptable that the data represent different years.
- Financial institutions **should** provide a description of the types and sources of data—including activity data, assumptions, emission factors, and all relevant publication dates—used to calculate emissions. Descriptions **should** be written to create transparency.
- Financial institutions **should** publish a weighted score by the outstanding amount of the data quality of reported emissions data or **should** explain why they are unable to do so. An example is provided within Box 8 on page 104 of PCAF's Global GHG Accounting & Reporting Standard for the Financial Industry.
- Where financial institutions are reporting scope 3 emissions, the weighted data quality score of these emissions **shall** be reported separately from that of scopes 1 and 2.
- The data hierarchy tables provided in each asset class method in Chapter 5 of PCAF's Global GHG Accounting & Reporting Standard for the Financial Industry **should** be used as a guide for disclosing data quality. Financial institutions **should** explain how data quality is assessed, acknowledging that it will improve over time.
- Over time and where possible, data **should** be verified to at least a level of limited assurance. Financial institutions **should** disclose whether data is verified and to what level.

4.8 Summary

Design choices covered in the 2021 discussion paper and updated in this year's proposed methodology are summarised below:

	Position in 2021 Discussion Paper	Updates in this Proposed Methodology
The time period over which the facilitation activity is captured	4 options were presented: Flow, Stock, Average Flow, Amortised Stock. *Pages 9-12 of 2021 discussion paper.*	Guidance is to use the 'flow' method whereby facilitation activity is only accounted for in the year the facilitation occurs. *Please see section 4.2 of this proposed methodology.*
Weighting – what portion of the capital markets issuance is the responsibility of the facilitator?	4 options were introduced: 100% weighting, a portion of issuance allocated to facilitators based on economic return, weighting based on transition plans, weighting based on fees. *Pages 12 & 13 of 2021 discussion paper.*	2 options are presented here: 100% weighting and G-SIB approach. *Please see section 4.3 of this proposed methodology.*
Splitting the responsibility between the facilitators	Outlined 2 options: splitting the facilitators' responsibility based on the role/fee received by each, or assigning an equal split between facilitators. *Page 14 of 2021 discussion paper.*	Guidance is to split the responsibility in line with volume-based league tables. *Please see section 4.4 of this proposed methodology.*
Differences between equity and debt capital markets	Discussed some challenges of the treatment of debt capital markets versus equity capital markets. *Page 15 of 2021 discussion paper.*	Acknowledgment debt and equity capital markets would be treated the same whether the 100% weighting method or the G-SIB approach is used. *Please see section 4.5 of this proposed methodology.*
Allocating emissions – calculating attribution factors	The recommended approach for calculation attribution is per the PCAF Standard – outstanding amount/EVIC (for listed companies) and outstanding amount/total equity + total debt (for private companies). *Page 14 of 2021 discussion paper.*	No change from 2021 discussion paper – recommended approach is per the PCAF Standard. *Please see section 4.6 of this proposed methodology.*
Forward-looking element – reporting facilitated emissions	A forward-looking element would be good to incorporate, to incentivize the facilitation of capital to companies who have plans/targets to improve their GHG emissions. However, it comes with several challenges including a potential lack of consistency with how financed emissions would be reported, a lack of available data, and a more complex/cumbersome process. *Pages 17-19 of 2021 discussion paper.*	No guidance is being provided on facilitated emissions reporting due to relative immaturity of target-setting at the issuer level. *Please see section 4.7 of this proposed methodology.*

5 Next Steps

This proposed methodology highlights why capital markets are significant to the climate transition. It outlines the concept of facilitated emissions and how they differ from financed emissions. This Working Group recognises that capital markets involve a large cast of actors and an added level of complexity due to the off-balance sheet dimension of facilitation. This proposed methodology has been written with the intent to provide industry-wide guidance for financial institutions involved with facilitated emissions, as well as for other interested parties.

The Working Group looks forward to receiving comments from the upcoming PCAF public consultation. These comments and inputs will help us finalise the methodology for facilitated emissions.

Once this proposed methodology has been finalized, and after review by the GHG Protocol, this paper will be included as a separate method within the current PCAF standard – the Global GHG Accounting & Reporting Standard for the Financial Industry.

6 Appendix

6.1 Data Required to Calculate Facilitated Emissions from Capital Markets Activities

PCAF distinguishes three options to calculate the facilitated emissions from capital markets transactions, depending on the emissions data used:

- Option 1: reported emissions
- Option 2: physical activity-based emissions
- Option 3: economic activity-based emissions

While Options 1 and 2 are based on company-specific reported emissions or primary physical activity data provided by the borrower or investee company or third-party data providers, Option 3 is based on region- or sector-specific average emissions or financial data obtained from public data sources such as statistics or data from other third-party providers.

Option 1 and 2 are preferred over Option 3 from a data quality perspective because they provide more accurate emissions results to a financial institution. Due to data limitations, financial institutions might use Option 1 or 2 for certain companies and Option 3 for others. The data quality mix shall be reflected in the average data quality score, as the Reporting chapter of PCAF's Global GHG Accounting & Reporting Standard for the Financial Industry illustrates.

Table 1 provides data quality scores for each of the described options and sub-options (if applicable) that can be used to calculate the facilitated emissions associated with capital markets transactions.

Table1. General description of the data quality score table for facilitated emissions from capital markets transactions (score 1 = highest data quality; score 5 = lowest data quality)[9]

Data quality	Options to estimate the financed emissions		When to use each option
Score 1	**Option 1: reported emissions**	**1a**	Outstanding amounts in the company and total company equity plus debt are known. **Verified emissions** of the company are available.
Score 2		**1b**	Outstanding amounts in the company and total company equity plus debt are known. **Unverified emissions** calculated by the company are available.
	Option 2: physical activity-based emissions	**2a**[10]	Outstanding amounts in the company and total company equity plus debt are known. Reported company emissions are not known. Emissions are calculated using primary physical activity data for the company's energy **consumption** and emission factors[11] specific to that primary data. Relevant process emissions are added.
Score 3		**2b**	Outstanding amounts in the company and total company equity plus debt are known. Reported company emissions are not known. Emissions are calculated using primary physical activity data for the company's **production** and emission factors specific to that primary data.
Score 4	**Option 3: economic activity-based emissions**	**3a**	Outstanding amounts in the company, total company equity plus debt, and the **company's revenue**[12] are known. Emission factors for the sector per unit of revenue are known (e.g., tCO_2e per euro or dollar of revenue earned in a sector).
Score 5		**3b**	The outstanding amount in the company is known. Emission factors for the sector per unit of an asset (e.g., tCO_2e per euro or dollar of an asset in a sector) are known.
		3c	The outstanding amount in the company is known. Emission factors for the sector per unit of revenue (e.g., tCO_2e per euro or dollar of revenue earned in a sector) and **asset turnover ratios** for the sector are known.

9 For business loans to listed companies, total company equity and debt is defined as the EVIC of the respective company.

10 The quality scoring for Option 2a is only possible for/applicable to scope 1 and scope 2 emissions as scope 3 emissions cannot be estimated by this option. Other options can be used to estimate the scope 3 emissions, however.

11 Supplier-specific emission factors (e.g., from an electricity provider) for the respective primary activity data are always preferred over non-supplier-specific emission factors.

12 If revenue is not deemed a suitable financial indicator for estimating the emissions of a company in a certain sector, one can apply other suitable financial indicators as a proxy. If an alternative indicator is used, the reasoning for the selection of this alternative indicator should be made transparent. The data quality score will not be affected.

DATA PROVIDERS (OPTION 1)

For Option 1 (reported emissions), PCAF recommends either collecting emissions from the borrower or investee company directly (e.g., company sustainability report) or third-party data providers, such as CDP, Bloomberg, MSCI, Sustainalytics, S&P/Trucost, and ISS ESG. Data providers typically make scope 1 and 2 emissions data available. PCAF encourages using the most recent available data and to mention the data source, reporting period, or date of publication.

Data providers collect emissions data as reported by the companies themselves, either through a standardized framework such as CDP or through a company's own disclosures in official filings and environmental reports. They often have their own methodologies to estimate/calculate companies' emissions, especially if emissions are not reported. In this case, the calculation would be in line with Options 2 or 3, assuming the methodology used is in line with the GHG Protocol. Financial institutions should ask data providers to be transparent, disclose the calculation method they use, and confirm alignment with the GHG Protocol. This will enable financial institutions to apply the proper score to the data. PCAF also encourages data providers to apply the PCAF scoring method to their own data, which would allow them to share the data quality scores directly with their clients.

PCAF does not recommend a preferred data vendor. PCAF recommends using data providers that use the standardized CDP framework and suggests data providers disclose the data quality score according to the scoring hierarchy in Table 5 5 on page 65 of PCAF's Global GHG Accounting & Reporting Standard for the Financial Industry.[13] When using data providers, PCAF recommends using the same provider due to the variability of scope 1 and 2 emissions observed by providers.

ESTIMATION MODELS (OPTION 2 AND 3)

Not all companies disclose their emissions data in official filings or through data providers. Reporting in emerging markets often lags behind that of developed markets. To maximize the coverage of emissions data, the remaining gaps are often filled with estimates.

For Option 2 (physical activity-based emissions), PCAF recommends using actual energy consumption (e.g., megawatt-hours of natural gas consumed) or production (e.g., tons of steel produced) data reported by companies, given the data fully covers the company's emissions-generating activities. The emission factors expressed per physical activity used should be based on appropriate and verified calculation methodologies or tools issued or approved by a credible independent institution. Example data sources for retrieving emission factors are ecoinvent,[14] Defra, [15] IPCC,[16] GEMIS,[17] and FAO.[18] The most recent available data should be used, including a mention of the data source, reporting period, or publication date.

For Option 3 (economic activity-based emissions), PCAF recommends using official statistical

13 More information about CDP can found at: https://www.cdp.net/en
14 More information can be found at: https://www.ecoinvent.org
15 More information can be found at: https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021
16 More information can be found at: https://www.ipcc-nggip.iges.or.jp/EFDB/find_ef.php
17 More information can be found at: http://iinas.org/gemis-download.html
18 More information can be found at: http://www.fao.org/partnerships/leap/database/ghg-crops/en

data or acknowledged EEIO tables providing region- or sector-specific average emission factors expressed per economic activity (e.g., tCO_2e/€ or $ of revenue or tCO_2e/€ or $ of sectoral assets). Financial institutions should use emission factors that are as consistent as possible with the primary business activity financed.[19] For example, for a business loan to a paddy rice farmer, the financial institution should seek to find and use a sector-specific average emission factor for the paddy rice sector and not an emission factor for the agricultural sector in general. For example, EEIO databases, that can be used to obtain such emission factors are EXIOBASE,[20] GTAP,[21] or WIOD.[22]

PCAF's web-based emission factor database provides a large set of emission factors for Option 2 and Option 3 above. The database, which is currently available only to PCAF signatories, can help financial institutions get started with estimating the facilitated emissions of their capital markets transactions.

PCAF expects that the facilitated emissions for most capital markets transactions can be derived through either reported emissions (Option 1), physical activity data (Option 2), or economic activity data (Option 3). However, PCAF allows the use of alternative options to calculate emissions if none of the specified options can be used or in the case that new options are developed. The reporting financial institution shall always explain the reasons for using an alternative option if it deviates from the three options defined above.

19 For conglomerates, financed emissions from a mix of activities can be estimated if data (e.g., revenue split) is available. If not, the primary revenue-generating activity should be chosen.
20 More information can be found at: https://www.exiobase.eu
21 More information can be found at: https://www.gtap.agecon.purdue.edu
22 More information can be found at: https://www.rug.nl/ggdc/valuechain/wiod

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